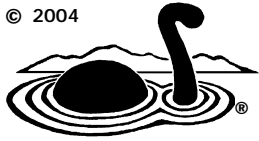


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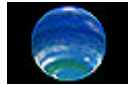
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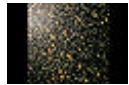
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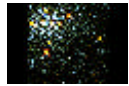
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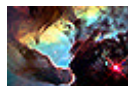
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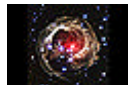
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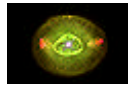
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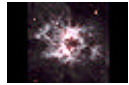
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20. HST deploy 1

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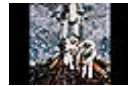
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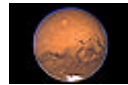
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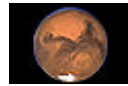
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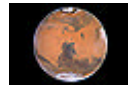
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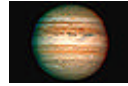
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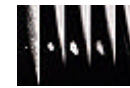
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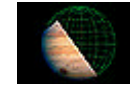
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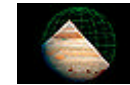
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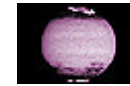
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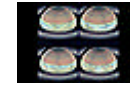
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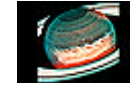
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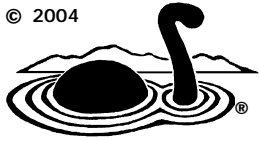
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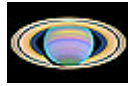


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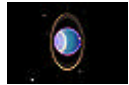
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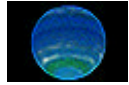
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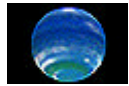


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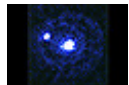
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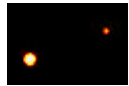
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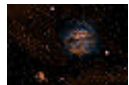
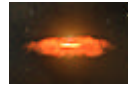
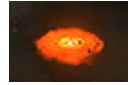
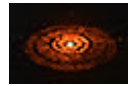
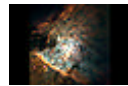
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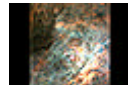


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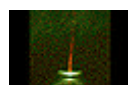
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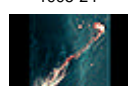


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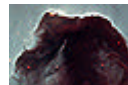


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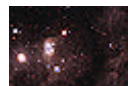
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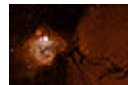
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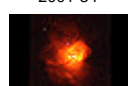
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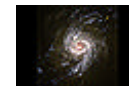
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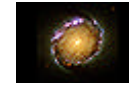
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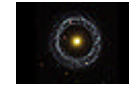
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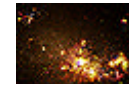
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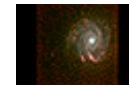
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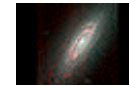
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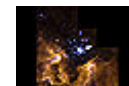
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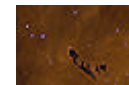
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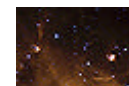
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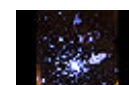
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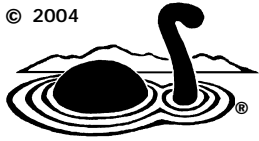
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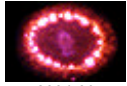
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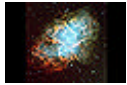
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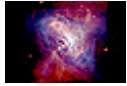
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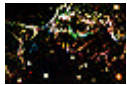
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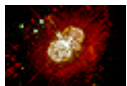


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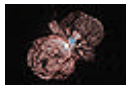


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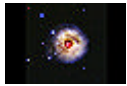
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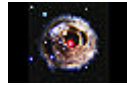
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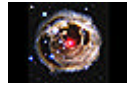
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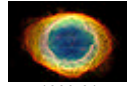


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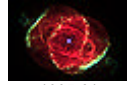
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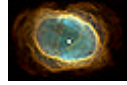
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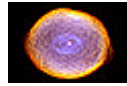
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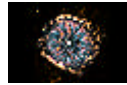
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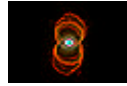
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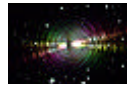
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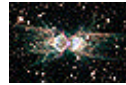
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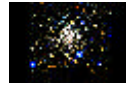
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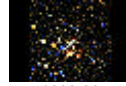
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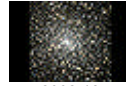
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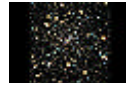
154. Globular
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1999-26



155. Globular
cluster M15

2002-18



156. Globular
cluster NGC
6397

2003-21



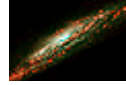
157. Omega
Centauri interior

2001-33



158. NGC 3370
galaxy

2003-24



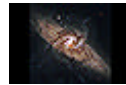
159. NGC 3079
galaxy

2001-28



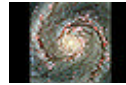
160. Sombrero
Galaxy

2003-28



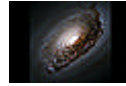
161. Interacting
galaxy pair

2000-14



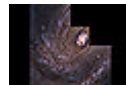
162. Galaxy
M51

2001-10



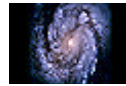
163. Galaxy
M64

2004-04



164. Galaxy
M100

1994-02



165. Galaxy
M100 core

1994-02



166. NGC 4414
galaxy

1999-25



167. Hickson
Compact Group
79

2002-22



168. Warped
Galaxy

2001-23



169. Hickson
Compact Group
87

1999-31



170. Colliding
galaxies

1999-41



171. Interacting
galaxies 1

2000-34



172. Interacting
galaxies 2

2003-14



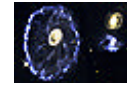
173. Polar ring
galaxy

1999-16



174. The
Antennae

1997-34

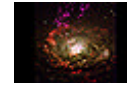


175. Cartwheel
Galaxy

1995-02



176. Black hole
art



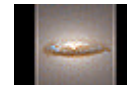
177. Circinus
active galaxy

2000-37



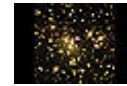
178. Jet in M87

2000-20



179. Black hole
disc

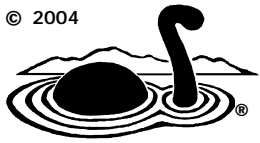
1998-22



180.
Gravitational
lens

2003-01

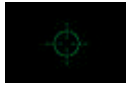
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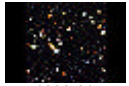
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Images List

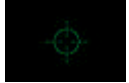


181. Deep Field North indicator



182. Hubble Deep Field north

1996-01



183. Deep Field South indicator



184. Hubble Deep Field south

1998-41



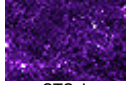
185. Ultra Deep Field

2004-07



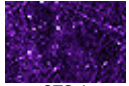
186. Cosmic web L

STScI



187. Cosmic web M

STScI



188. Cosmic web R

STScI



189. HST status



190. Title logo



191. Credit producers



192. Credit images



193. Credit copyright



194. Earth chord



195. HST large left

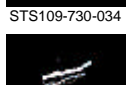
STS109-730-034



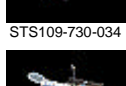
196. HST large right



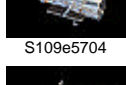
197. HST small left



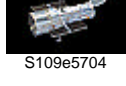
198. HST small right



199. HST oblique left



200. HST oblique right



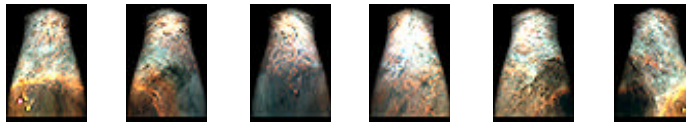
S109e5704

For background information on each image, we have included reference numbers beneath the thumbnails.

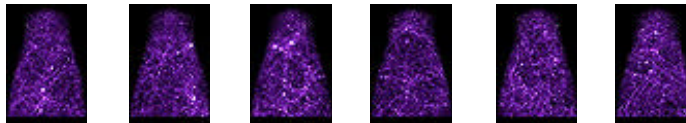
These refer to the Space Telescope Science Institute press release number (e.g. 1996-01); the European Southern Observatory releases; or the NASA electronic image numbers (e.g. STS109-730-034) used to identify mission images.

Web page URLs for these images can be found on page 11 (References and Resources) of this production notes book.

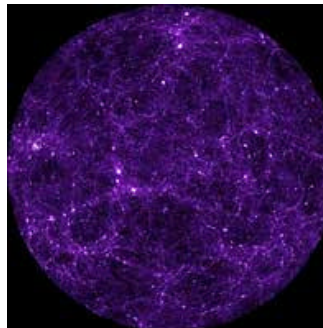
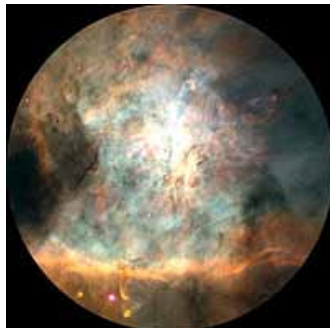
A | B | C | D | E | F



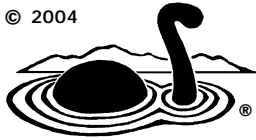
M1. Orion proplyds all-sky



M2. Cosmic web all-sky

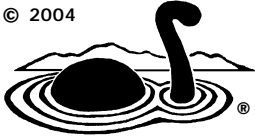


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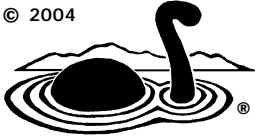

time	visuals	audio	
0:00	HOUSE lights fade		1
	STARS up	<i>[opening music: 30 seconds]</i>	2
			3
0:30		For much of human history, <i>this</i> was all we could see of the universe — a few thousand stars set in the velvet darkness of night...	4
	Planetarium Moon and planets	along with the Moon and planets, wandering across the celestial backdrop.	5
			6
			7
			8
0:51		And this is what anyone can see, on a clear, dark night — until we magnify the view...	9
			10
			11
			12
1:01	1. Mars 2. Saturn 3. Neptune	We find desert planets, and gas giant worlds...	13
			14
			15
1:09	4. 47 Tucanae cluster 5. NGC 1818 cluster 6. NGC 1850 cluster	Stellar families, clustered together...	16
			17
1:16	7. Lagoon Nebula 8. Cone Nebula 9. Keyhole Nebula	Starlight nurseries of gas and dust.	18
			19
1:23	10. V838 Monocerotis 2004 11. Blinking Eye Nebula 12. NGC 2440 nebula	The death shrouds of stars lie in celestial graveyards.	20
			21
			22
1:31	13. NGC 4414 galaxy 14. Colliding galaxies 15. Sombrero Galaxy	Galaxies wheel through the universe, playing out a vast drama of cosmic life and death.	23
			24
			25

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time	visuals	audio	
1:44	HST / Earth chord	<p>Today we explore the universe with telescopes that extend our view across time and space, revealing wonders previous generations of stargazers never dreamed of.</p>	1 2 3 4 5
1:59		<p>And some of the most evocative visions have come from a magnificent orbiting observatory — the Hubble Space Telescope.</p>	6 7 8 9 10
	16. Title logo	<p><i>[Title music and segue: 11 seconds]</i></p>	11
2:20	17. HST on orbit 1 18. HST on orbit 2 19. HST on orbit 3	<p>The Hubble Space Telescope orbits high over the Earth, well above the thick blanket of air that complicates viewing in all wavelengths of light for ground-based observatories.</p>	12 13 14 15 16 17
2:35	20. HST deploy 1 21. HST deploy 2 22. HST deploy 3	<p>The Space Telescope carries instruments sensitive to ultraviolet, visible, and infrared light. Its optical system resolves objects appearing about a tenth of an arcsecond across. That's like standing on Earth and spotting a rivet on the side of the telescope as it orbits overhead.</p>	18 19 20 21 22 23 24 25

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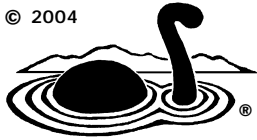

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time	visuals	audio	
2:59	23. HST servicing 1	Hubble was designed to be maintained by astronauts on regular servicing missions. Crews installed special optics to correct a flaw in the primary mirror. They swapped out instruments and cameras, upgraded computers, and replaced the telescope's stabilizers and solar panels.	1
	24. HST servicing 2		2
	25. HST servicing 3		3
	26. HST servicing 4 COSTAR		4
	27. HST servicing 5 WFPC		5
	28. HST servicing 6		6
	29. HST servicing 7 panels		7
	30. HST servicing 8		8
	31. HST servicing 9		9
3:21			With each servicing mission, the improvements provided scientists with ever more spectacular multi-wavelength images and data.
			11
			12
			13
			14
		<i>[music segue: 7 seconds]</i>	15
3:38	HST / Earth chord	Since its launch in 1990, the Hubble Space Telescope has seen some extraordinary things. Its vast archives contain data from hundreds of thousands of observations — a fascinating tour of the cosmos — from Earth orbit.	16
			17
			18
			19
			20
			21
			22
			23
		<i>[music bridge: 8 seconds]</i>	24
			25

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time	visuals	audio	
4:05	32. Copernicus crater	While Hubble spends much of its time looking at extremely distant objects, it has captured images of targets as close as our own Moon...	1 2 3
4:16	33. Venus	...and the planet Venus.	4 5
4:23	34. Mars 1 2003 35. Mars 2 2003 36. Mars 3 1999	But the dry, dusty, desert planet Mars became one of Hubble's most popular solar-system targets.	6 7 8 9
4:31	37. Mars 4 1999 38. Mars 5 1999 39. Mars 6 1999	We've monitored changes in Martian weather patterns over the years — from the circulation of high thin clouds, to the seasonal appearance of dust storms and variations in the polar ice caps.	10 11 12 13 14 15
4:50	40. Jupiter 41. Red Spot 4-plex 1 42. Red Spot 4-plex 2	<p data-bbox="852 1455 1328 1486" style="text-align: center;"><i>[music bridge: 5 seconds]</i></p> <p>Jupiter is the most colorful and turbulent planet in the solar system. Wind-driven storms churn within its cloud belts. The largest of these — the "Great Red Spot" — is three times the size of Earth. Hubble tracked this storm for more than seven years.</p>	16 17 18 19 20 21 22 23 24
			25